

Device and Method for Inspection
of Baggage and Other Objects

Abstract of the Disclosure

A device and method is provided for finding a specific material superimposed on an unknown background when the locations of the specific material and the background are unknown, for example, inside an item of baggage. The invention comprises exposing an area of an item to be inspected to x-rays of two substantially different energies, making effective use of the characteristic material specific differences in photoelectric effect scattering and Compton scattering, and comparing the pairwise differential attenuation of the x-rays at nearby exposed subareas to determine whether differences in attenuation can be attributed to the presence of different amounts of the specific material overlying the respective subareas. The most probable subareas are indicated on a standard image on a monitor as being the most likely location of the overlying specific material.